

Remarks

Upon entry of the foregoing amendment, claims 1-36 are pending in the application, with claims 1, 15, 22, 23, 27, and 34 being the independent claims. Claims 1, 15, 22, 23, 27 are amended by the foregoing amendment, and new claims 34-36 are added. These changes are believed to introduce no new matter, and their entry is respectfully requested. Claim 24 is indicated to be allowable if rewritten to include all the limitations of the base claim and any intervening claims. Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 102

Claim 1 was rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,796,295 to Gay et al. (hereinafter Gay). Applicants respectfully traverse this rejection. Independent claim 1, as amended, recites:

A communications device, comprising:
a substrate having an input and an output that are capable of being connected to a communications network;
a relay, disposed on said substrate and connected *between said input and said output of said substrate*, said relay capable of being closed when substantially zero volts is applied to said relay; and
a switchable termination resistor, disposed on said substrate and coupled to said input of said substrate, having an impedance capable of providing a termination for an external circuit that is disposed external to said substrate, said external circuit also connected to said input of said substrate.

(See, claim 1, *emphasis added*)

The Office Action relies on element 2 of Gay to allegedly teach the output of the substrate that is capable of being connected to a communication network, as provided in independent claim 1. However, upon inspection, element 2 in Gay is merely a ground

reference for the input terminal 1. (See, Gay, FIG. 1) Gay states that "... a telephone line is conventionally connected ... to a telephone circuit according to the invention via input terminals 1 and 2, the latter being taken as the ground reference." (Gay, col. 3, lines 6-11). Therefore, Gay fails to teach or suggest *a substrate having an input and an output that are capable of being connected to a communications network.* ✓

Furthermore, element 5 in Gay alleged to teach the relay of claim 1. However, it is apparent that the emitter of element 5 is not connected to the alleged output 2 of Gay, which is a ground reference for element 1 as discussed above. (See, Gay, FIG. 1), Therefore, element 5 fails to teach *a relay, disposed on said substrate and connected between said input and said output of said substrate...*, as recited in claim 1. (See, claim 1, *emphasis added*) ✓

Furthermore, the Office Action relies on elements 7, 10, and 11 of Gay to allegedly teach the *switchable termination resistor* in Applicants' claim 1. However, none of these elements are *termination* resistors, and elements 10 and 11 are not even switchable. In Gay, elements 10 and 11 are directly coupled to the input terminal and form part of the voltage feedback loops of the circuit, and therefore have no series switch to make them switchable. (Gay, col. 3, lines 16-18 and col. 4, lines 27-28). Further, elements 10 and 11 are indicated to have a "very high impedance so that all of the current supplied by the telephone line flows in transistor 5....", but there is no indication that resistors 10 and 11 provide a termination resistor for an external circuit. (Gay, col. 4, lines 19-22) Element 7 is a current sense resistor that couples the collector of a high voltage transistor to a reservoir capacitor and to a voltage regulator. (Gay, col. 3, lines 11-16). Current is fed from the telephone line to the reservoir capacitor via element 7, thereby providing power to the circuit. (Gay, col. 4, lines 11-15). Nothing in Gay

suggests that element 7, 10, or 11 is *a switchable termination resistor*, as recited in claim

1.

Accordingly, for the reasons set forth above, Gay does not teach each and every feature of claim 1 and therefore does not anticipate claim. 1. Therefore, Applicant requests that claim 1 and its respective dependent claims be passed to allowance.

Rejections under 35 U.S.C. § 103

Claims 2-23 and 25-33 were rejected under 35 U.S.C. § 103(a) as being obvious over Gay. Applicants respectfully traverse this rejection.

Claims 2-14 are allowable for being dependent on an allowable claim 1 over Gay for the reasons discussed above in addition to their own respective features. For example, claim 2 recites that the relay includes a *native* FET. There is no indication that Gay teaches or suggests a native FET, nor does the Office Action even allege this.

Independent claim 15, as amended, recites:

A communications device, comprising:
 a substrate having a differential input and a differential output that are capable of being connected to a communications network;
 a differential filter, external to said substrate, and coupled to said differential input;
 a termination, disposed on said substrate and across a differential output of said differential filter, said termination adapted to provide a constant input impedance at an input of said differential filter; and
 a differential relay, disposed on said substrate and connected between said differential input and said differential output of said substrate, said differential relay including first and second *native FETs* that have a threshold voltage of approximately zero volts.

To summarize, independent claim 15 recites a specific configuration for a communications device, namely: an *external (i.e. off-chip) differential filter*, and a *termination* and a *differential relay* that are disposed on the substrate (*i.e. on-chip*). The

termination is disposed on the substrate, and is configured so as to provide a constant input impedance at the input of the differential filter, and the differential relay includes first and second native FETs that have a threshold voltage of approximately zero volts.

As discussed above, Gay states that element 2 is simply a ground for the input terminal 1. (Gay, col. 3, lines 6-11). Therefore, Gay does not disclose a differential relay between a differential input and a differential output, including first and second native FETs that have a threshold voltage of approximately zero volts, as recited in claim 15.

Furthermore, Gay makes no mention of the use of *native FETs* for the differential relay.

Furthermore, Gay makes no mention of the *differential filter, external to the substrate, and coupled to the differential input*, nor does the Office Action even allege this. Since the differential filter is not disclosed, Gay also does not disclose *a termination disposed on said substrate and across a differential output of the differential filter adapted to provide a constant input impedance at an input of said differential filter*, as recited in claim 15. The Office Action appears to rely on elements 7, 10, and 11 of Gay to allegedly teach the termination in independent claim 15. However, none of these elements are terminations that are *adapted for a differential filter*, or are *disposed across a differential output of said differential filter that is external to the substrate*, as is recited in claim 15.

Accordingly, Gay does not teach and every feature of claim 15, and therefore does not meet the requirements of prima facie obviousness. Accordingly, Applicants request that the rejection under 35 U.S.C. § 103 be removed, and that claim 15 and its respective dependent claims be passed to allowance.

Independent claims 22, 23, and 27 also distinguish over Gay for reasons similar to those set forth above with respect to independent claim 15, and further in view of their own features. Accordingly, Applicants request that these claims and their respective dependant claims also be passed to allowance.

New Claims

New claims 34-36 have been added, where new claim 34 recites that the relay is substantially closed when no power is applied to the substrate. Gay does not teach or suggest this limitation because the transistor 6 in FIG. 4 of Gay requires a positive supply voltage (see voltage reg. 8, starter circuit 27) to conduct so as to ground the base of the transistor 5. Accordingly, power is required to operate the transistor 5 in Gay.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



Jeffrey T. Helvey
Attorney for Applicants
Registration No. 44,757

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1100 New York Avenue, N.W.
Washington, D.C. 20005-3934
(202) 371-2600